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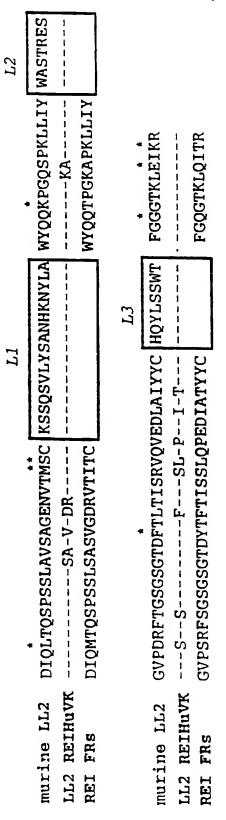


FIG. 1A

Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

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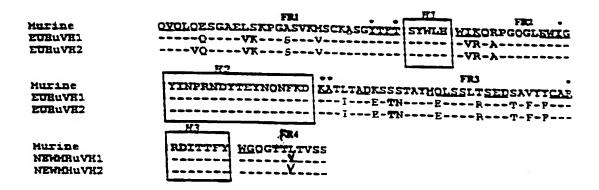


FIG. 1B

Title: GYLOCOSYLATED HUMANIZED B-CELL SPECIFIC ANTIBODIES

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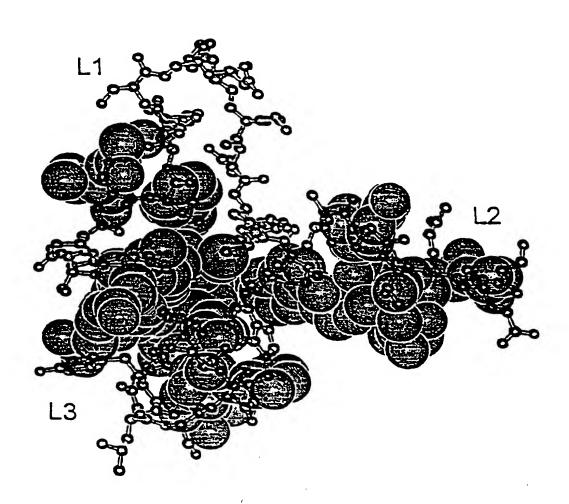


FIG. 2A

Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

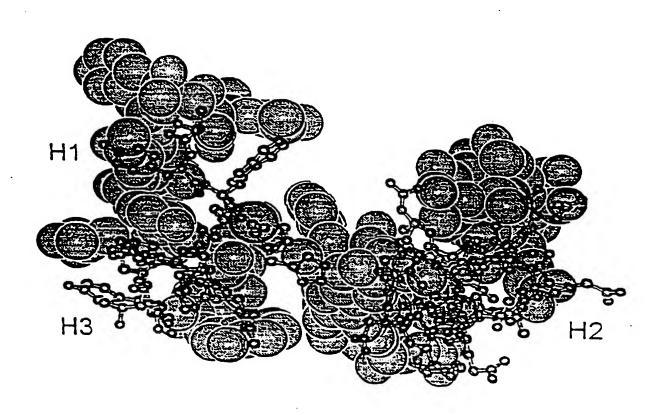


FIG. 2B

Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

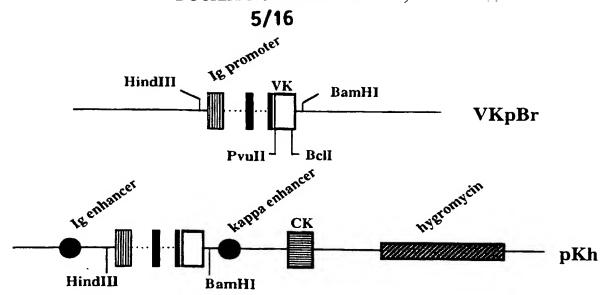
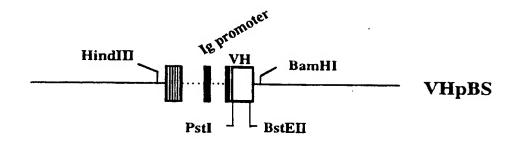


FIG. 3A



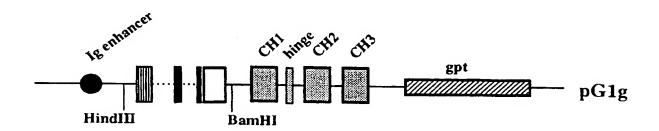


FIG. 3B

Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

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LL2 VK

SEQUENCE ID NO. 3

1	GA	CAT	TCR	GCT	GAC	CCA	GTC	TCC	ATC	ATC	TCT	GGC	TGT	GTC	TGC	AGG	AGA	AAA	CGT	CAC:	5
•	CI	STA	agt	CGA	CIG	GGT	CAG	AGG	TAG	TAG	YCY	CCG	ACA	CYC -+-	ACG	TCC	TCI	AAA	GCA	GTG:	+ 60 \
	D	I	Q	L	T	Q	s	P	s	S	L	A	v	s	λ	G	E	Ħ_	v	<u>.</u>	_
61	AT	GAG	CIG	TAA	GTC	CAG	TCA	AAG	IGI	111	ATA	CAG	TGC	AXA	TCA	CN:	LGJU.	CTA	CII	GGC	· ·
	1111	TACTCGACATTCAGGTCAGTTTCACAAATATGTCACGTTTAGTGTTCTTGATGAACCGG CDR1 S C K S S Q S V L Y S A N B K N Y L A															;				
	H	S	С	K	S	S	0	S	V	L	Y	s	λ	N	B	X	N	Y	L	λ	_
121	TG	GTA	CCA	GCA	GAA	ACC	AGG	GCA	GTC	TCC	Tll	A CT	عدراتا.	.		~~~					
	-		7. T	CGI		166	TCC	CGI	CAG	AGG	ATI	TGA	CGA	CIA	GAI	CAC	ccc	TAG	GTG	ATC	2
	W	Y	Q	Q	x	P	G	Q	S	P	x	L	L	I	Y	W	A	s	Ŧ	R	-
191	GA	ATC	TGG	IGI	ccc	TGA	TCG	CII	CXC	AGG	حد	CGG	ATC	TGG	GAC	יאכי	LTT	TAC	TCT	TAC	2
						ACT	AGC	GAA	GTG	TCC	GIC	CCC	TAG	ACC	CIG	TC	LAA!	LATG	AGA	ATG	240
	B	s	G	v	P	a	R	P	T	G	s	G	s	G	T	ם	P	T	L	T	_
241	AT	CAG	CAG	agt	ACA	agt	TGA	AGA	CCI	GCC	AAT	IIA	TIA	TIC	TC	تععد	\ATI	CCI	cic	CIC	5
	TA	CTC	GTC	TCA	TGI	TCA	ACI	ICI	CGA	ccc	TIA	AAT	AAT	AAC	AGI	GG:	TAT	GGA	GAG	GXG	+ 300 =
	I	s	R	v	Q	v	E	D	L	λ	ı	Y	Y	С	H	0	Y	CD L	R3 S	S	_
301	TG	CAC	GII	CGG	TGG	AGG	GAC	CAA	CCI	CCY	GAI	CAA	ACG	T							
_	AC	CTG	CAA	GCC	ACC	TCC	CIG	GII	CGA	cci	CIA	GII	TGC	3. LA	39						
	W	Ŧ	7	G	G	G	T	x	L	E	I	ĸ	R	-							

FIG. 4A

Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

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LL2 VH

SEQUENCE ID NO. 4

,	CAGGTCCAGCTGCAGGAGTCAGGGGCCTGAACTGTCAAAACCTGGGGCCTCAGTGAAGATG																					
٠										act						CCG	GAC					60
	Q	v	Q	L	Q	E	s	G	A	E	L	s	ĸ	P	G	A	s	v	x	}	٠ -	
61			CAA							TAC					CCA	CTG	GAT					
	AGGACGTTCCGAAGACCGATGTGGAAATGATCGATGACCGACGTGACCTATTTTGTCTCC															120						
	S	C	K	λ	S	G	Y	T	F	T	S	Y	W	L	H	W	I	ĸ	Q	1	₹ -	•
121			ACA				ATG			ATA					GN.	TGI	LTT	ATA	CTG			100
	GG	GGACCTGTCCCAGACCTTACCTAACCTATGTAATTAGGATCCTTACTAATATGACTCATG CDR2																				
	P	G	Q	G	L	E	W	I	G	Y	I	N	P	R	N		Y	T	E		7	-
											_							_			_	
181			CAR			CGA	CAR	reco	CAC	LATI	GAC	TGC	AGI	CU	LAT	CIC	CA	GCA	CAG			
181				CT1	CA		CAR	GGC	CAC		GAC	TGC	AGI	CU	LAT	cr	CA	GCA	CAG		+	240
181		AG	.C11	CTI -+- CAA	GTI	CCI	CAR GTI	.ccc	CAC	ATI	GAC + CTC	TGC	AGI	CU	LATO	CIC	CA GGT	GCA CGI	CAG		+	240
	TT M	Q CGC	N N	CTT CAA	GTT K	D CC1	GTT K	GGC CCC A	GTC T	TAN L	GAC + CTC	iACO A	TAGI TCT D	GT:	ATO TRO S	CTC	GTG	GCA +	CAG GTC	cc	ATC Y	240 ; -
	N AI	Q GCU	N AACT	GAA	CAI	D CC1	GTT K	CATO	GTG	TAN L	GAC CTC	iACC	AGI TCT D	K ICT	LATO S ATT	IGA S ACT	SGT SGTG	GCA CGT T	CAG GTC A	cc	ATC	240
	N AI	Q GCU	N AACT	GAA	CAI	D CC1	K	A CATO	GTG	EATT STAX L	GAC T CTC	iACO A	D D	K ICT	TAC S ATT	S S ACT	SGT SGT STG	CAA	GTC	cc	ATC	240
241	AT THE	Q GCI ACGI	N AACT	F GAA F CTC	GT I	p ccr ccr	GTT K TGAC	A CATO	T T TGJ	L L L	GAC T CTC	A CTGC	D D CAG:	K K ICT: AGA:	S S ATT:	SGAG S ACT IGA	SGT SGT GTG CAC	CAA	GTC	cc	ATC	240
241	N AT TA	Q TGCJ ACGT	N NACT PTGJ L	F GAG F GAG CTC	K K CAC S CTI	D SCCT	GTT K TGAC T	CCCCAACTATAC	T T TGI TAC:	EATT E L AGGI ICC:	GAC T LCTC T LCTC S S	A CTCC	D DAG:	K R TCTI AGA:	S ATT	S ACT	SGT SGTGCAC	CAA	GTC	cc	ATC	240

Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

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SEQUENCE ID NO. 5

,	GACATTCAGCTGACCCAGTCTCCATCATCTCTGAGCGCATCTGTTGGAGATAGGGTCACT																					
•	CT						CAG	AGG'	TAG	ragi	AGA	CTC	GCG	TAC	ac.	AAC	CTC	TA	TCC	CAC	TGA	60
	D	I	Q	L.	T	Q	s	P	s	s	L	s	A	s	v	G)	R	v	T	-
£1	AT	GAG	CTG	TAA	GTC	CAC	TCA														GGCC	
•				-	CAG	GTC	AGT	TTC	ACA	AAA	TAT	GT	AC	+ GTT	TAG	TG	TC:	TTG	ATC	AA	+ ccgg	120
	M	s	С	K	S	s	Q	s	٧	L	Y	s	A	N	E	1 1	K :	N	Y	L	A	-
121				+-							-+-			+							TAGO	180
	W	Y	Q					ĸ		P		L				,				DR	2	
			_	•	•	•	•	••	••	•						ı (W	<u>A</u>	S	T	R	-
18	r -			+				+			-+-				+			+			CAC AGTG	+ 240
	E	s] G	v	P	· S	R	F	s	G	5		;	5	G	T	D	F	T	F	T	-
24	1 –	TCA	.GCT	CTC	TTC	:AAC	CAG	AAG	ACA	TTG	CAJ	ACA?	TAT	TAT	TGI	CAC	CCA	ATA	LCC:	CT	CCTC	G
	_				AAC	TT	GTC	TTC	TGT	'AAC	GT:	rgt.	ATA	TA.	ACI	AGT	GGT		rgg:	AGA	GGAG	+ 300 C
	1	: 5	5 5	S I	, (2 1	P E) 1	. 4	٠,	r	Y	Y	С	B	Q				S	-
30	11 -				+			-+	AAGA TTC:	<u>ڪ</u> ۔.	+	ATC		CC	TC	TCC	_ 3	45				
	[w ·	r i	F.	G	G	G	T	ĸ ;		E,	ı	c C	R	s	P	-					
													-			نہ						

FIG. 5A

Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

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SEQUENCE ID NO. 6

,	CA	GGT	CCA	GCT	GGT	CCAJ	ATCA	.GGG	GCI	GA	\GT(CAAC	LAA	ACC:	rcc	STC	ATC	AGT	GAA	GGTC							
•	GT				CCA		+- FAGT	ccc	CGA	CTI	CAC	STT	TT	rgg.	ACC	CAG	TAG	TCA	 CTT	+ CCAG	60						
	Q	V	Q	L	V	Q	s	G	A	E	v	ĸ	ĸ	P	G	s	s	v	ĸ	v	-						
61	TC	CTG	CAA	GGC	TTC	TGG	CTAC	ACC	TTT	rac:	TAG	CTA	CTG	GCT	GCA	CTG	GGT	CAG	GCA	.GGCA							
		GAC	GTT	ccc	AAG	ACC	GATO	TG	LAA	\TG	ATC	GAT	GAC	++ 120 CCGACGTGACCCAGTCCGTCCGT R1													
	S	С	K	A	s	G	Y	T	F	T	s	Y	W	L	Н	W	v	R	Q	A	_						
121	CC	TGG	ACA	+-	TCI	GGA	ATGO	AT:	rgg.	ATA	CAT	AAT	TCC	TAG	GAA	TGA	TTA.	TAC		GTAC							
		ACC	TGI	ccc	CAGA	CCT	TAC	CTA	ACC'	TAT	GTA	ATT	AGG	ATC	CTI	ACT	'AA'	TAT	SACT	CATG	. 180						
	P	G	Q	G	L	E	W	I	G	Y	I	N	P	R	N	D	Y	T	Ε	Y	_						
181	A	TC:	\GAI	CT	TCA	AGG#	CAA	GGC	CAC	TAA	'AAC	TGC	AG	/CG	\ATC	CAC	CAI	ATA	CAGO	CTAC	:						
	_			-		rcci	GTT	ccg	GTG	TTA	TTC	ACC	TC	GC:	TA(GT	GT	FAT	GTC	GGAT	240 3						
	N	Q	N	F	ĸ	Đ] ĸ	A	T	1	T	A	D	E	s	T	N	T	A	Y	_						
24:	A:	rgg:	AGC	TGA +	GCA	GCC:	rgag +	GTC	TGA	.GG	ACAC	2GG	CAT:	TTT.	ATT"	TTT(STG	Caa	GAA	GGGA:	r						
												SCC	STA	AAA	TAA	AAA	CAC	+ GTT	CTT	CCCT	+ 300 A						
	M	E	L	s	s	L	R	s	Ε	D	T	A	F	Y	F	C	A	F	· R	D	-						
30	A 1 -	TTA	CTA	.CG1	TCT	ACT	GGGG		VAGO																		
	T	AAT	GAT CDR	'GC# 3	LAGA	TGA	CCC				GGT	GCC	AGT	GGC	AGA	GGA	:	348									
	I	T	T	F	Y	W	G	Q	G	T	T	v	T	v	s	s	_	-									

FIG. 5B

Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

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Designed sequence for humanized LL2 VH domain:



Construction of the humanized LL2 VH domain by long oligonucleotides and PCR:

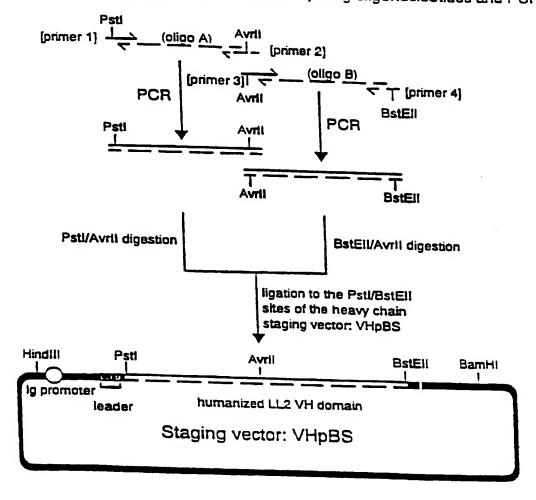
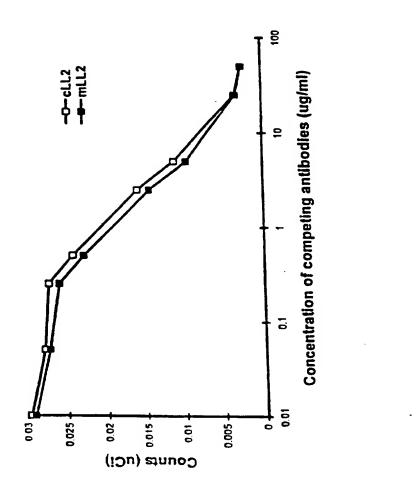
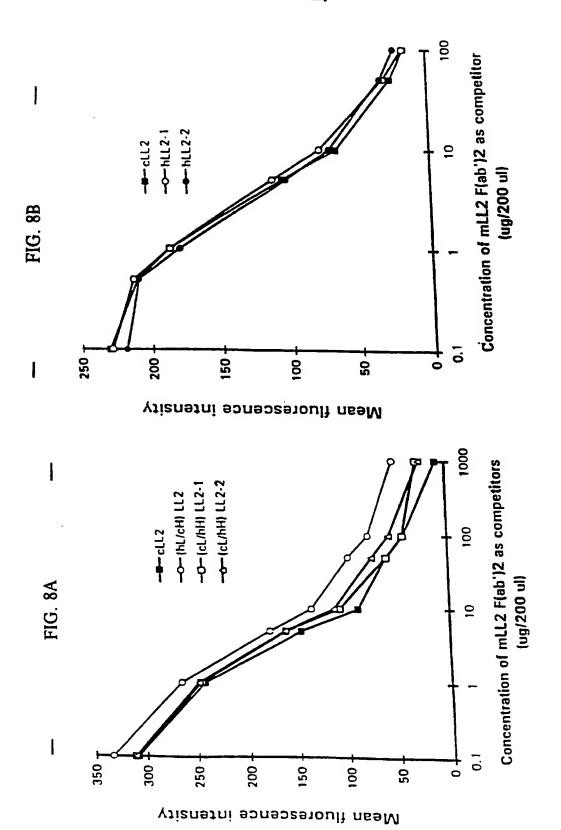


FIG. 6

Title: GYLOCOSYLATED HUMANIZED B-CELL SPECIFIC ANTIBODIES Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359



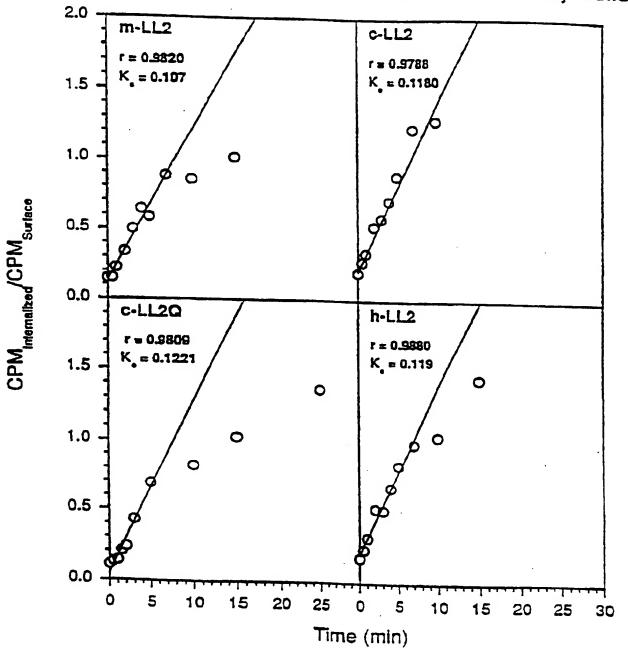
Title: GYLOCOSYLATED HUMANIZED B-CELL SPECIFIC ANTIBODIES



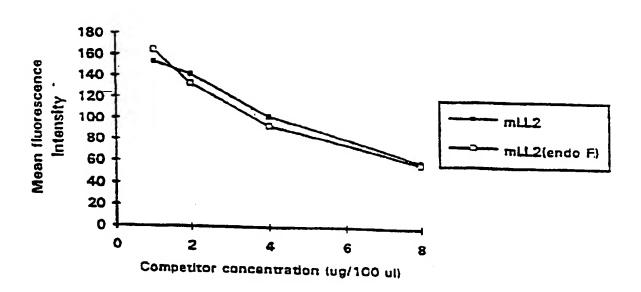
Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

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Internalization: c-LL2. h-LL2 vs. m-LL2 in Raji cells



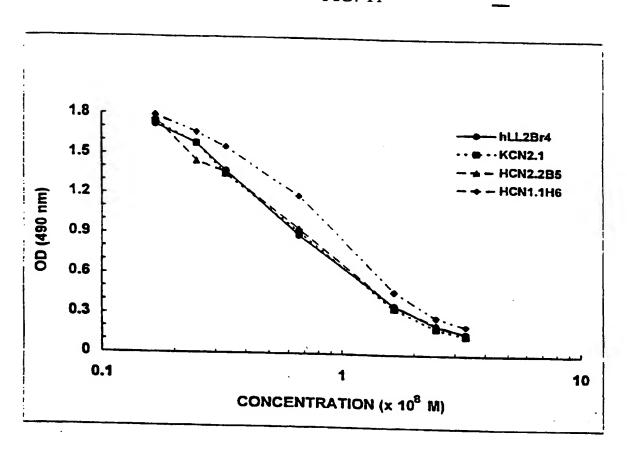
Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359



Title: GYLOCOSYLATED HUMANIZED B-CELL SPECIFIC ANTIBODIES

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FIG. 11



Inventor(s): Shui-on LEUNG et al. DOCKET NO.: 018733-1359

207							193								
**	тупс	ΣТИΙ	типс	IALC	ZTYI	2T/Y I	-	KVYXA	KVYA	cyka	CVYA	WYA	L		
	T.G.1.	LGT(LGT(LGT	LGT(NGT(EKHI	EKH	EKH	EKHK	EKHK			
	SSSd	SSSd	SSS	SSS	SSN	SSS		CADY	ADY	ADY	ADY	ADY			
	TV	TV-1	$\overline{\text{TV}}$ -1	TV - I	TV - I	TV-1		TLSF	TLSK	NLBK	rlsk	ILSK			
	SSVV	SSVV	SSVV	SSVV	SSVV	SSW		STL	STL	STL	STL	STL			
	ASL	YSL	YSL	YSNE	YSLS	YSLS		YSLS	XSIS	YSLS	YSLS	VNLS	Ш		
*	म्हिल् नि	SEGL	SGL	SGL	SGL	SGL		DST	DST	DST	DSL	DST			
	VLQS	VLQS	VLNS	VLQS	VLQS	VLQS		DSK	DSK	DSK	DSK	DSK			
	FPA	FPA	FPA	FPA	FPA	FPA		VTE	VTE(VTE(VTE	VTE(۵		
*	WHI	THVE	жнт	жнт	3VHT	3VHT		OES	OES	OES	NES	ÖES			
	"IVSWNSGAL F SGVHTFPAVLQSSGLYSLSSVVTV-PSSSLGTQTYI	PEPVIVSWNSSALIT SGVHTFPAVLQSBGLYSLSSVVTV - PSSSLGTQTY	PEPVTVSWNSGALIT SGVHTFPAVLNSSGLYSLSSVVTV - PSSSLGTQTY	TIVSWNSGALITSGVHTFPAVLQSSGLYSNSSVVTV-PSSSLGTQTY	TIVSWNSGALIT SGVHTFPAVLQSSGLYSLSSVVTV - PNSSLGTQTY	PEPVTVSWNSGALIT SGVHTFPAVLQSSGLYSLSSVVTV - PSSSNGTQTY I		KVQWKVDNALQSGNSQESVTEQDSKPSTYSLSSTLTLSKADYEKHKVYA	KVQWKVD NAS QSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYA	KVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLNLSKADYEKHKVYA	preakvowkvdnalosgns <mark>nes</mark> vte <mark>odskos</mark> iyslsstltlskadyekhkvya	PREAKVQWKVDNALQSGNSQESVTEQDSKDSTYNLSSTLTLSKADYEKHKVYA			
	ALII-	ALT-	ALTT-	ALIT-	ALIT-	ALIT-		MALO	IABO	IALO	IALO	ALO			
*	NSG/	NSS/	NSG/	NSG/	NSG1	NSG7		KVDN	KVDN	KVDN	KVDN	KVDN			
*	MSA	MSA	VSW.	VSW.	NSA	VSW		VQW	VQW	MOM	VQW	ΜŎΛ	ပ		
6	EPV']	EPVJ	EPVT	PEPVT	PEPVT	EPVT		PREAK	PREAK	PREAK	REAK	REAK			
14	in P	Ы	P	Ы	PI	Pl			P	ld	PF	PF			
	<i>II chain</i> PEPV	ICNI	HCN2	HCN3	HCN4	HCN5		к chain	IN	KCN2	N3	KCN4	ß-strand		
	11	HC	HC	HC	HC	HC		7	KCN1	KC	KCN3	KC	-S		